

Installation Instructions


NOTE: Read the entire instruction manual before starting the installation.

SAFETY CONSIDERATIONS

Installing and servicing heating equipment can be hazardous due to gas and electrical components. **Only trained and qualified personnel should install, repair, or service heating equipment.** Untrained personnel can perform basic maintenance functions such as cleaning and replacing air filters. All other operations must be performed by trained service personnel. When working on heating equipment, observe precautions in literature, on tags, and on labels attached to or shipped with unit and other safety precautions that may apply.

These instructions cover the minimum requirements and conform to existing national standards and safety codes. In some instances, these instructions exceed certain local codes and ordinances, especially those that may not have kept up with changing residential construction practices. We require these instructions as a minimum for a safe installation.

Wear safety glasses and work gloves. Have a fire extinguisher available during start-up and adjustment procedures and service calls.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the furnace and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

WARNING

FIRE, EXPLOSION, ELECTRICAL SHOCK, AND CARBON MONOXIDE POISONING HAZARD

Failure to follow this warning could result in personal injury, death and / or property damage.

The qualified installer or agency must use only factory-authorized kits or accessories when servicing this product.

INTRODUCTION

This instruction covers the installation and conversion of Silicon Carbide igniters to Silicon Nitride igniters on 40-in. tall mid-efficiency furnaces. Refer to the models in Table 1.

TABLE 1—FURNACE MODELS

58PAV	383KAV	480BAV
58RAV	373LAV	481BAV
58WAV	395CAV	PG8UAA
58ZAV	376CAV	PG8DAA
58TUA	330AAV	GB1AAV
58TMA	331AAV	GB3AAV
58UXT	330JAV	
58DXT	331JAV	
58UHV	333BAV	
58UXV	333JAV	
58YAV	393AAV	
58SSC		
58DHC		

DESCRIPTION AND USAGE

The Replacement Hot Surface Igniter Kit can be utilized to repair or upgrade 40-in. mid-efficiency furnaces that utilize a Silicon Carbide Igniter. This kit contains the following items in Table 2 below:

TABLE 2—KIT CONTENTS

Part Name	Part Number
Silicon Nitride Igniter	LH33ZG001
Igniter Mounting Bracket	332285 – 401
Igniter Mounting Screw	FAW5808B
Igniter Bracket Screw	FAW5808B
Igniter Adapter Harness	329130 – 701
Installation Instructions	IIK 332505 – 1

INSTALLATION

CAUTION

CUT HAZARD

Failure to follow this caution may result in personal injury.

Sheet metal parts have sharp edges. **Use care and wear appropriate protective clothing and gloves when handling parts.**

STEP 1 —Remove Old Igniter Assembly

NOTE: The old igniter is mounted in one of 5 ways, depending on what igniter bracket and burner support bracket was used with the furnace. Note the way the old igniter bracket is attached to the burner support bracket. The new igniter bracket **may not** mount exactly the same way as the old igniter bracket. Refer to Fig. 1, 2 or 3 for old igniter mounting arrangements. Fig. 4 shows the correct igniter bracket mounting hole to use for the igniter used on your furnace. Fig. 5 and 6 show the new igniter mounting arrangements.

NOTE: It is not necessary to remove the old igniter from the igniter mounting bracket.

1. Turn off electric supplies to unit and set thermostat to lowest setting or "OFF". More than 1 disconnect may be required to disconnect power to unit.
2. Remove exterior control door to the burner compartment by one of the following methods:
 - a. Upflow and Upflow/Horizontal models
Lift the control door upward from the bottom of the control door and pull away from furnace.
 - b. Downflow and Downflow/Horizontal models
Remove the blower compartment door by removing the 2 screws from the front of the blower compartment door that secure the door to the furnace. Set the door aside.
Lift control compartment door up off furnace from bottom and pull away from furnace.
3. Turn off gas at external supply shut-off and turn electric switch or knob on gas valve to "OFF."
4. Disconnect Hot Surface Igniter harness located under main burner assembly from Hot Surface Igniter.
5. Before removing Hot Surface Igniter assembly, refer to Fig. 1, 2 or 3 and determine which burner support and igniter bracket combination is on your unit.
6. Remove the screw that secures the Hot Surface Igniter bracket to the burner support bracket.
7. Remove the Hot Surface Igniter and bracket from burner support bracket and discard.

STEP 2 —Installation of New Igniter

1. Refer to Fig. 4. There are 2 sets of holes in the igniter mounting bracket. Verify the position the new igniter bracket (without the igniter installed) to ensure that the igniter mounting bracket is correctly positioned to the burner support bracket and the mounting holes are aligned correctly.
2. Mount the new igniter underneath the new igniter mounting bracket using one of the 1/2-in. long mounting screws included in the kit.
3. Reposition the new igniter and bracket to the burner support bracket. Secure the igniter mounting bracket to the burner support bracket with the remaining 1/2-in. long mounting screw included in the kit.
4. Verify igniter alignment is correct. See Fig. 4 or 5.
5. Connect Hot Surface Igniter adapter harness to Hot Surface Igniter.
6. Connect Hot Surface Igniter adapter harness to the main wiring harness.
7. Turn on gas at external supply shut-off and turn electric switch or knob on gas valve to "ON."

8. Turn on electrical supply to unit.

NOTE: Blower will run for 90 sec if thermostat is set to call for heat when 120-v power is restored. A status code 12 will flash after 90 sec. To clear the status code, turn off power, turn thermostat "OFF" or down below room setting. Turn power back on. Set thermostat to desired temperature.

STEP 3 —System Check-Out

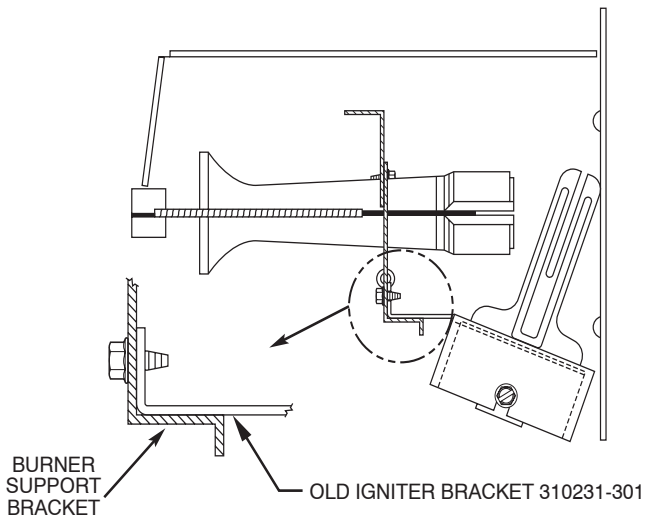
1. Set thermostat to "OFF."
2. Remove blower access door.
3. Manually close blower door switch.
4. Initiate component test through circuit board by referring to "**Component Test**" on status code label on blower access door for complete test sequence information.
5. Verify igniter glows during Component Test.
6. If any status codes are flashed, refer to status code label on unit blower door.
7. Release blower door switch.
8. Turn thermostat to "OFF" or lowest setting.
9. Re-install blower compartment and control compartment doors.
10. Set thermostat to call for heat.
11. Verify all burners ignite smoothly.
12. Allow unit to initiate a complete call for heat cycle.

Igniter failure may have been caused by one or more of the following conditions. As part of the system check-out, verify that the following conditions are not affecting the operation of the furnace:

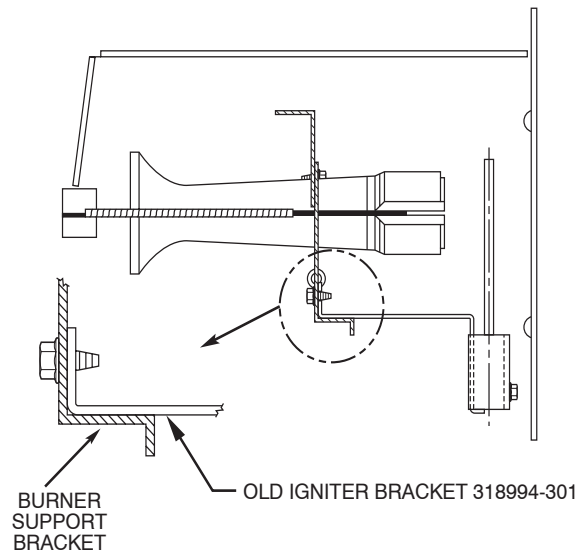
- **Igniter positioning:** Verify igniter position as shown in Fig. 3, 4 and 5.
- **Short Cycling-Defective thermostat:** Incorrect thermostat anticipator setting, dirty filter or over-sized furnace.
- **Under or Over firing/Incorrect btu input:** Set manifold pressure and verify firing rate as shown on rating plate with a water column manometer or similar device.
- **Incorrect temperature rise:** Set unit for correct temperature rise range as shown on unit rating plate.
- **Contaminated combustion air:** Remove contaminants or provide ample fresh air for combustion.
- **Excessive amounts of outside ventilation air:** Return air temperature cannot be below 60°F for extended periods of time.
- **Incorrect venting:** Verify proper venting per local code. Type B vent connector is required for 2-stage units and may be required for other applications.

For additional information, and a complete sequence of furnace operation, refer to furnace Installation, Start-Up and Operating Instructions.

13. After System Check-out is complete, set thermostat below room temperature.
14. Verify that burner shuts down and blower completes selected off delay time.
15. Verify furnace operates properly and set thermostat to desired room temperature.
16. Verify all doors are installed properly.



USE THIS ARRANGEMENT TO MOUNT NEW IGNITER BRACKET
SEE FIG. 5

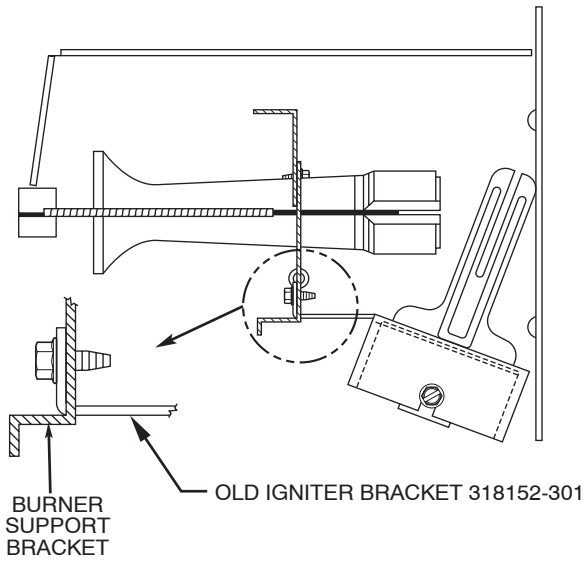


USE THIS ARRANGEMENT TO MOUNT NEW IGNITER BRACKET
SEE FIG. 5

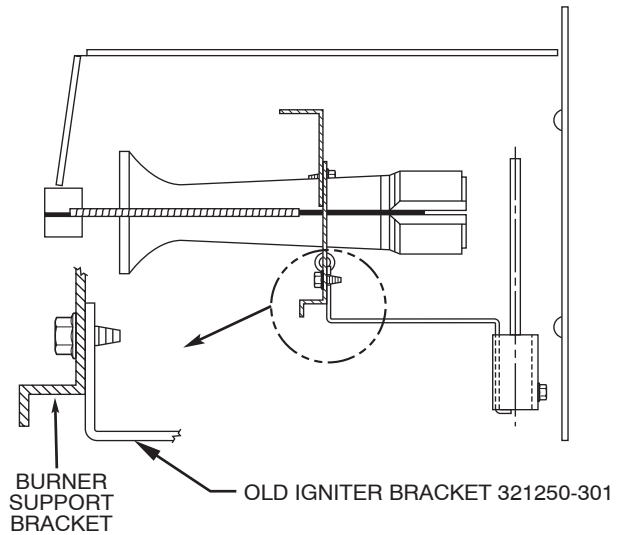
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Fig. 1 – Old Hot Surface Igniter and Mounting Bracket Options



DO NOT USE THIS ARRANGEMENT TO MOUNT NEW IGNITER
BRACKET. USE ARRANGEMENT SHOWN IN FIG. 6

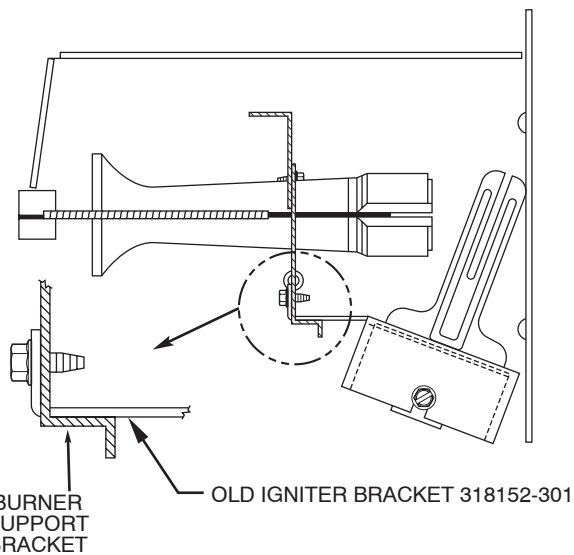


USE THIS ARRANGEMENT TO MOUNT NEW IGNITER
BRACKET. SEE FIG. 6.

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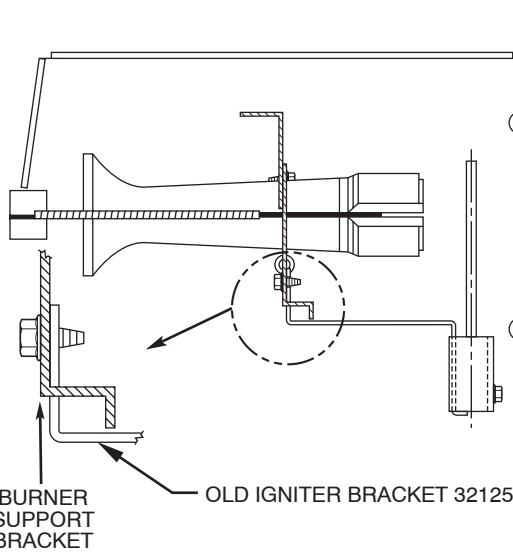
Fig. 2 – Old Hot Surface Igniter and Mounting Bracket Options

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BURNER SUPPORT BRACKET
OLD IGNITER BRACKET 318152-301

DO NOT USE THIS ARRANGEMENT TO MOUNT NEW IGNITER BRACKET. USE ARRANGEMENT SHOWN IN FIG. 5.



BURNER SUPPORT BRACKET
OLD IGNITER BRACKET 321250-301

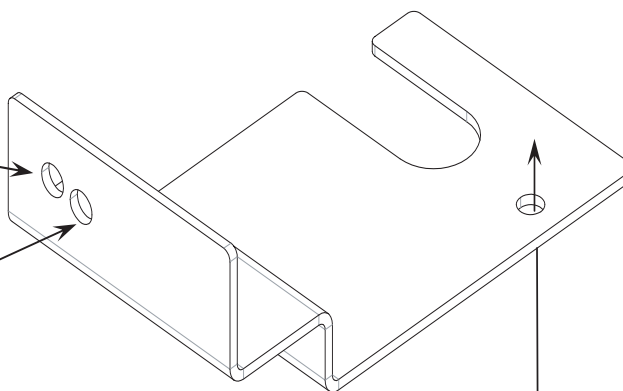
DO NOT USE THIS ARRANGEMENT TO MOUNT NEW IGNITER BRACKET. USE ARRANGEMENT SHOWN IN FIG. 5.

Fig. 3 – Old Hot Surface Igniter and Mounting Bracket Options

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Use this hole to mount igniter bracket to burner support bracket for igniters shown in Fig. 1.

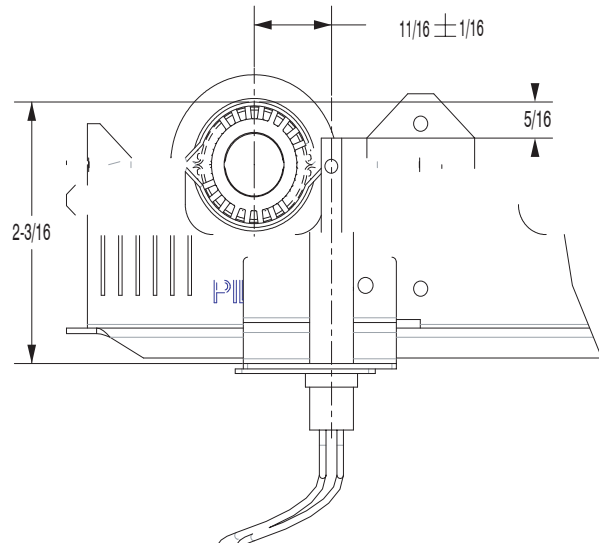
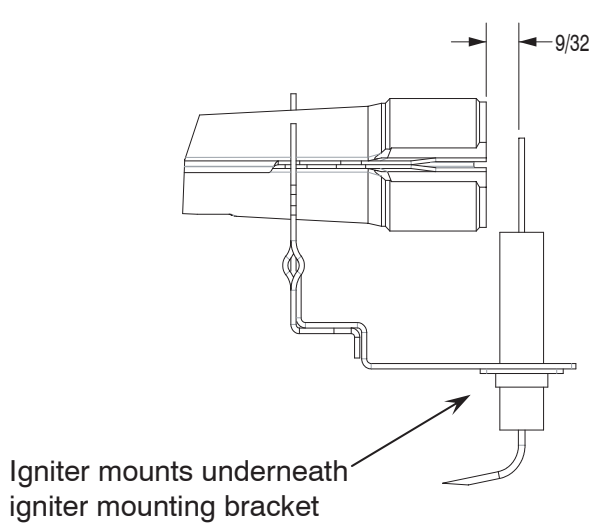
Use this hole to mount igniter bracket to burner support bracket for igniters shown in Fig. 2 and 3.



Igniter mounting hole. Mount igniter underneath bracket and attach with screw provided.

Fig. 4 – New Igniter Mounting Bracket

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Fig. 5 – Igniter Mounting

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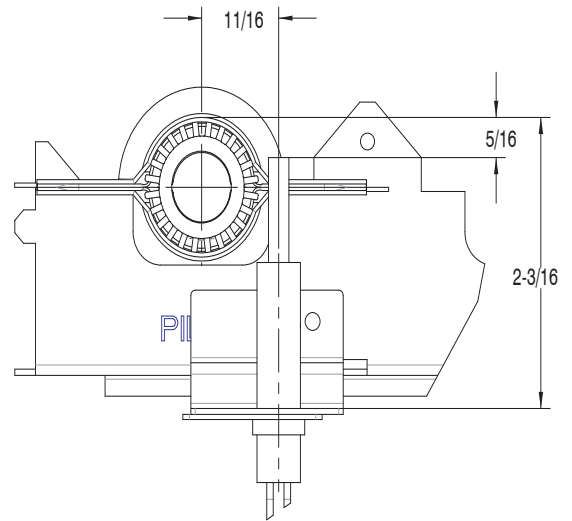
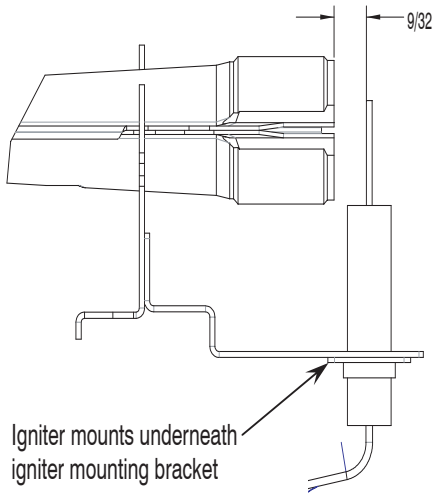


Fig. 6 – Igniter Mounting

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